

Implementing Agricultural Nonpoint Source Components of the Attoyac Bayou Watershed Protection Plan

Final Report

TSSWCB Project #16-08



Nacogdoches Soil & Water Conservation District #401

FUNDING PROVIDED THROUGH A CLEAN WATER ACT §319(h) NONPOINT SOURCE
GRANT FROM THE TEXAS STATE SOIL AND WATER CONSERVATION BOARD AND
THE U.S. ENVIRONMENTAL PROTECTION AGENCY

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Executive Summary

The Nacogdoches Soil and Water Conservation District (SWCD), working cooperatively with the Texas State Soil and Water Conservation Board (TSSWCB) and the United States Department of Agriculture - Natural Resources Conservation Service (NRCS), provided technical and financial assistance to agricultural producers in the Attoyac Bayou Watershed through a Clean Water Act §319(h) nonpoint source grant from the TSSWCB and the U.S. Environmental Protection Agency.

Through this project, a District Technician was hired and worked cooperatively with the TSSWCB and NRCS to provide agricultural producers with the opportunity to voluntarily develop and implement water quality management plans (WQMPs) in the Attoyac Bayou Watershed.

Through this project, a total of 8 WQMPs were developed and implemented on approximately 1967 acres. The types of BMPs implemented include: Cross-Fence, Forage and Biomass Planting, Livestock Pipeline, and Brush Management.

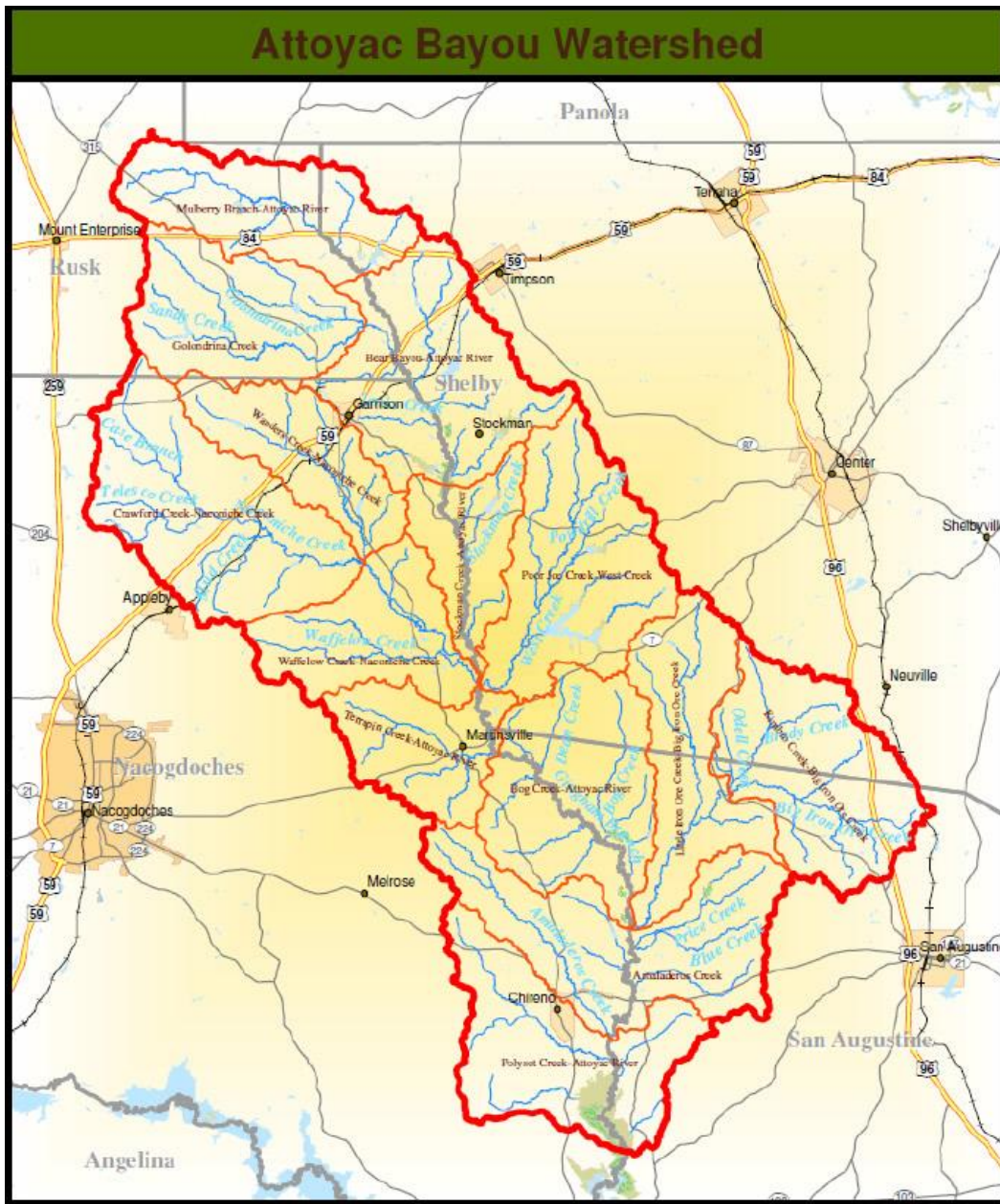
The District Technician worked with TSSWCB and SWCDs to educate local producers on WQMPs, proper soil sampling, prescribed grazing, and other BMPs through press, flyers and technical assistance. Technical assistance played an integral part in the success of the District Technician's positive impact on the watershed. Implementation of WQMPs has and will continue to be a key component in the overall effort to improve water quality in the Attoyac Bayou Watershed.

Introduction

The Attoyac Bayou, Segment 0612, is one sub-watershed within the Upper Neches River Watershed that is considered impaired due to excessive levels of bacteria. The Bayou extends approximately 82 miles from its headwaters in Rusk County and flows through Nacogdoches, San Augustine and Shelby Counties before emptying into the Sam Rayburn Reservoir. The watershed contains several named communities including Chireno, Attoyac, Martinsville, Grigsby, Garrison and others; however, these are small rural communities. The remainder of the area is predominantly managed for agricultural (cattle and poultry), silvicultural, recreational and wildlife uses and contains many rural residents and four known permitted wastewater discharges totaling a maximum of 338,000 gallons per day.

Through scientific analysis, researchers supporting the Partnership determined to what degree bacteria levels in Attoyac Bayou should be reduced to meet the water quality standard. Based on an evaluation of existing water quality data and watershed characteristics, no single management measure is expected to achieve the level of reduction needed, thus an integrated approach to bacteria management in the watershed needs to be implemented to work towards the water quality goal. The WPP also notes the need for technical and financial assistance to both encourage and support participation of landowners in programs to address bacteria source contributions in the watershed. One specific need noted is that in support of the State's Water Quality Management Plan (WQMP) program.

A WQMP is a site-specific plan developed through and approved by SWCDs for agricultural or silvicultural lands. The plan includes appropriate land treatment practices, production practices, management measures, technologies or combinations thereof. The purpose of WQMPs is to achieve a level of pollution prevention or abatement determined by the TSSWCB, in consultation with local SWCDs, to be consistent with state water quality standards. This project was incorporated into the WPP in order to address the potential agricultural sources of NPS pollution and will be coordinated with educational and assessment activities planned within the Attoyac Bayou watershed.



Program Development

This project consisted of the TSSWCB working with the Nacogdoches SWCD #401 to provide technical assistance and financial incentives to landowners for the development, implementation, and/or maintenance of WQMPs. The goal of the Partnership was to develop and implement a Watershed Protection Plan (WPP) to improve and protect the water quality of Attoyac Bayou (Segment 0612). According to the *2014 Texas Water Quality Inventory and 303(d) List*, Attoyac Bayou does not support the contact recreation use due to elevated bacteria concentrations.

The District Technician worked to compile a list of producers who were interested in the Water Quality Management Plan Program. The applications were then reviewed by the Nacogdoches SWCD and given approval for implementation of cost-effective pollution abatement practices based upon the recommendation stated in the Attoyac Bayou Watershed Protection Plan

The District Technician, working in cooperation with the NRCS, developed WQMPs based on the criteria outlined in the Field Office Technical Guide (FOTG), a publication of the NRCS. The FOTG represents the best available technology and is already tailored to meet the needs of SWCDs all over the nation. A WQMP includes the following:

- Conservation plan map showing boundaries, fields, land use, acres and facilities
- Soils map
- Soils description
- Topography map
- Conservation Plan of Operation
- Soil test (required when nutrients are applied)

Once the WQMP was developed and approved by NRCS and the local district, it was then sent to the TSSWCB Wharton Regional Office for technical review and certification. Upon certification of the WQMP, the plan could be implemented. The District Technician worked with the landowner to implement BMPs laid out in the WQMP. The major BMPs installed included:

Forage and Biomass Planting

This is the practice of establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production. This practice can improve or maintain livestock nutrition and/or health, provide/increase forage supply during periods of low forage production, reduce soil erosion, improve soil and water quality, and produce feedstock for Biofuel or energy production.



Cross-Fencing

This practice facilitates the accomplishment of conservation objectives by providing a means to control movement of animals and people. A fence may be applied as part of a conservation management system to facilitate the application of conservation practices that treat the soil, water, air, plant, animal, and human resource concerns.



Brush Management

This is the management or removal of woody plants including those that are invasive and noxious. The purpose of this practice is to create the desired plant community consistent with the ecological site, restore desired vegetative cover to protect soils, control erosion, reduce

sediment, improve water quality, enhance hydrology, or improve forage accessibility for livestock.



Livestock Pipeline

This practice consists of a pipeline and appurtenances installed to convey water for livestock or wildlife. To allow for better utilization of pasture and decrease pressure on heavy use areas, as well as required feet for managing grazing.

Conclusions

The Nacogdoches SWCD, working cooperatively with the TSSWCB and the NRCS, provided technical and financial assistance to agricultural producers in the Attoyac Bayou Watershed through a Clean Water Act §319(h) nonpoint source grant from the TSSWCB and the U.S. Environmental Protection Agency.

The development, installation, and maintenance of WQMPs in the Attoyac Bayou Watershed have continue to be a successful effort.

Through this project, a total of 8 WQMPs were developed and implemented on approximately 1967 acres.